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ABSTRACT

Seven studies of the usefulness of 45 phonic generalizations were selected for comparison on the basis of similarity in research design. Combining the results into a single summary table, 25 of the 45 generalizations were found to be useful. The authors suggest that, where possible, these generalizations should be consolidated to simplify the instructional task. (AA)

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A SUMMARY OF STUDIES ON THE USEFULNESS OF PHONIC GENERALIZATIONS

A criticism often expressed concerning research is that related studies are published (or are unpublished) in a variety of journals and are never assimilated into one source with a comparison of results. This summary of research studies on the usefulness of phonic generalizations is an attempt to assimilate the results of seven studies which used textbooks in a variety of skill and content areas for the data base.

Studies included in this summary are: Bailey (1967); Clymer (1963); Davis (1969); Emans (1967); Ferguson (1970; Jernigan (1969); and, King (1970). Each was selected because the research design was virtually identical to the design of Clymer's study and would provide data which could be used for comparative and summary purposes.

The sample in Bailey's study included words found in eight basal reading series for grades one through six. Clymer's study included all words in four basal reading series for the primary grades and the words from the Gates Reading Vocabulary for the

Primary Grades. Davis' study included all words found in six spelling series for grades two through six. Emans used a random sample of 10 percent of the words above the primary level in The Teacher's Word Book of 30,000 Words by Thorndike and Lorge (1944). Ferguson included the words from three mathematics series for grades one through six. Two studies included all the words found in textbooks for content areas: Jernigan used three science series for grades one through six; and, King included the words found in three social studies series for grades one through six.

Procedures

The seven studies selected for this summary of research studies were all designed to determine the utility of forty-five phonic generalizations which had initially been identified by Clymer. All of the studies used Webster's New Collegiate Dictionary for the purpose of determining conformations and exceptions to each generalization. The percentage of utility was determined by dividing the total number of conformations by the total number of incidents. For the composite data reported in the table, the number of incidents and the number of conformations for each study were totalled and the percentage of utility was computed.

Only the two criteria which were common to all of the studies were used to determine the utility of each generalization. The first criterion was that there must be at least twenty incidents

for testing each generalization. The second criterion was that each generalization had to have a percent of utility of seventy-five or higher to be considered useful.

Conclusions

1. Generalizations 5, 8, 16, 20, 22, 23, 28, 30, 31, 32, 41 and 45 were found to be useful according to the established criteria in each of the seven studies as well as the composite of these studies.

2. Generalizations 10, 19, 25, 26, 27, 29, 35 and 36 were found useful for the composite of the studies and would have been found useful in each of the studies except for the failure in certain studies to meet the criterion of a minimum of twenty incidents.

3. Generalizations 3, 21, 24, 38 and 40 were found useful for the composite of the studies as well as other studies but there was not total agreement between each of the studies.

4. Generalizations 1, 2, 6, 7, 9, 12, 13, 14, 15, 17, 18, 33, 34, 37, 39, 42 and 43 failed to meet the criterion of a percent of utility of seventy-five in each of the studies as well as the composite which was an expected outcome.

5. In addition to those generalizations found useful in all studies, generalizations 3, 10, 19, 24, 25, 26, 27, 29, 35, 36 and 38 were useful in both the science and social studies textbooks eventhough they failed to meet both criteria for certain of the skill area materials.

6. Generalizations 4 and 11 met the established criteria only in the content area of science.

The Utility of Forty-Five Phonic Generalizations

Generalization	Bailey	Clymer	Davis	Emans	Ferguson	Jernigan	King	Composite		
	Percent Utility	Percent Utility	Percent Utility	Percent Utility	Percent Utility	Percent Utility	Percent Utility	No. of Incidents	No. Words Conforming	Percent Utility
1. When there are two vowels side by side, the long sound of the first vowel is heard, and the second vowel is usually silent.	34	45	32	18	37	34	38	14104	4981	35
2. When a vowel is in the middle of a one-syllable word, the vowel is short.	71	62	66	73	69	64	68	6263	4201	67
Middle letter	78	69	74	81	81	76	87	1881	1450	77
One of the middle two letters in a word of four letters	68	59	64	71	66	61	64	2718	1738	64
One vowel within a word of more than four letters	62	46	61	42	58	61	65	1664	1013	61
3. If the only vowel letter is at the end of a word, the letter usually stands for a long sound.	76*	74	77*	33	72	81*	75*	182	137	75*
4. When there are two vowels, one of which is final e, the first vowel is long and the e is silent.	57	63	63	63	67	76*	70	2639	1662	63
5. The r gives the preceding vowel a sound that is neither long nor short.	86*	78*	86*	82*	89*	89*	82*	13553	11551	85*
6. The first vowel is usually long and the second silent in the digraphs ai, ea, oa, and ui.	60	66	58	58	67	64	64	4126	2548	62
ai	72	64	74	83	72	74	69	1067	765	72
ea	55	66	53	62	48	57	63	2224	1296	58
oa	95	97	95	86	96	89	89	488	448	92
ui	10	6	5	0	13	28	7	344	39	11
7. In the phonogram ie, the i is silent, and the e has a long sound.	31	17	14	23	9	20	17	987	173	18
8. Words having double e usually have the long e sound.	87*	98*	86*	100*	94*	94*	90*	1238	1129	91*
9. When words end with silent e, the preceding a or i is long.	50	60	58	48	63	74	61	3546	2140	60
10. In ay, the y is silent and gives a its long sound.	88*	78*	83*	100	95*	96*	97*	457	420	92*
11. When the letter i is followed by the letters gh, the i usually stands for its long sound, and the gh is silent.	71	71	68	100	59	81*	42	440	280	64

* Generalizations found "useful" according to the criteria.

Generalization	Bailey	Clymer	Davis	Emans	Ferguson	Jernigan	King	Composite		
	Percent Utility	Percent Utility	Percent Utility	Percent Utility	Percent Utility	Percent Utility	Percent Utility	No. of Incidents	No. Words Conforming	Percent Utility
12. When a follows w in a word, it usually has the sound a as in was.	22	32	22	28	25	22	25	710	171	24
13. When e is followed by w, the vowel sound is the same as represented by oo.	40	35	42	14	28	50	23	245	87	36
14. The two letters ow make the long o sound.	55	59	54	50	63	61	67	956	587	61
15. W is sometimes a vowel and follows the vowel digraph rule.	33	40	37	31	44	55	45	1350	584	43
16. When y is the final letter in a word, it usually has a vowel sound.	89*	84*	86*	98*	90*	91*	86*	3263	2879	88*
17. When y is used as a vowel in words, it sometimes has the sound of long i.	11	15	10	4	10	20	7	4161	465	11
18. The letter a has the same sound (o) when followed by l, w, and u.	34	48	35	24	30	32	40	2533	882	35
19. When a is followed by r and final e, we expect to hear the sound heard in care.	96*	90	96*	100	90	91*	96*	120	113	94*
20. When c and h are next to each other, they make only one sound.	100*	100*	100*	100*	100*	100*	100*	1510	1510	100*
21. Ch is usually pronounced as it is in kitchen, catch, and chair, not like sh.	87*	95*	85*	67	98*	98*	83*	1516	1352	89*
22. When c is followed by e or i, the sound of s is likely to be heard.	92*	96*	86*	90*	92*	97*	90*	1902	1750	92*
23. When the letter c is followed by o or a, the sound of k is likely to be heard.	100*	100*	100*	100*	100*	100*	100*	3231	3231	100*
24. The letter g often has a sound similar to that of j in jump when it precedes the letter i or e/	78*	64	80*	80*	75*	87*	81*	1468	1173	80*

*Generalizations found "useful" according to the criteria.

Generalization	Bailey	Clymer	Davis	Emans	Ferguson	Jernigan	King	Composite		
	Percent Utility	Percent Utility	Percent Utility	Percent Utility	Percent Utility	Percent Utility	Percent Utility	No. of Incidents	No. Words Conforming	Percent Utility
25. When ght is seen in a word, gh is silent.	100*	100*	100*	100	100*	100*	100*	442	442	100*
26. When a word begins kn, the k is silent.	100	100	100	100	100	100*	100*	122	122	100*
27. When a word begins with wr, the w is silent.	100	100	100*	100	100	100*	100*	119	119	100*
28. When two of the same consonants are side by side, only one is heard.	98*	99*	90*	91*	98*	96*	98*	6199	5978	96*
29. When a word ends in ck, it has the same last sound as in lock.	100*	100*	100*	100	100*	100*	100*	547	547	100*
30. In most two-syllable words, the first syllable is accented.	81*	85*	82*	75*	85*	77*	87*	16975	13999	82*
31. If a, in, re, ex, de, or be is the first syllable in a word, it is usually unaccented.	84*	87*	81*	83*	83*	82*	89*	3299	2778	84*
32. In most two-syllable words that end in a consonant followed by y, the first syllable is accented and the last is unaccented.	97*	96*	98*	100*	99*	98*	99*	1175	1153	98*
33. One vowel letter in an accented syllable has its short sound.	65	61	68	64	62	63	61	22677	14029	62
34. When y or ey is seen in the last syllable that is not accented, the long sound of e is heard.	0	0	0	1	0	0	0	2692	3	0
35. When ture is the final syllable in a word, it is unaccented.	95*	100	100*	100	100	100*	100*	136	135	99*
36. When tion is the final syllable in a word, it is unaccented.	100*	100	100*	100*	100*	100*	100*	784	784	100*
37. In many two- and three-syllable words, the final e lengthens the vowel in the last syllable.	46	46	49	42	51	62	54	2780	1458	52
38. If the first vowel sound in a word is followed by two consonants, the first syllable usually ends with the first of the two consonants.	78*	72	80*	80*	75*	76*	80*	12792	9952	78*

*Generalizations found "useful" according to the criteria.

Generalization	Bailey	Clymer	Davis	Emans	Ferguson	Jernigan	King	Composite		
	Percent Utility	Percent Utility	Percent Utility	Percent Utility	Percent Utility	Percent Utility	Percent Utility	No. of Incidents	No. Words Conforming	Percent Utility
39. If the first vowel sound in a word is followed by a single consonant, that consonant usually begins the second syllable.	50	44	49	47	50	53	45	10183	4913	48
40. If the last syllable of a word ends in le, the consonant preceding the le usually begins the last syllable.	93*	97*	96*	78*	100*	75*	71	890	757	85*
41. When the first vowel element in a word is followed by th, ch, or sh, these symbols are not broken when the word is divided into syllables and may go with either the first or second syllable.	100*	100*	100*	100*	100*	100*	100*	747	747	100*
42. In a word of more than one syllable, the letter v usually goes with the preceding vowel to form a syllable.	65	73	68	40	67	61	67	1496	956	64
43. When a word has only one vowel letter, the vowel sound is likely to be short.	69	57	67	70	66	69	70	6208	4160	67
44. When there is one e in a word that ends in a consonant, the e usually has a short sound.	92*	76*	91*	83	93*	87*	21	1439	764	53
45. When the last syllable is the sound r, it is unaccented.	79*	95*	82*	96*	96*	98*	93*	4508	4050	90*

*Generalizations found "useful" according to the criteria.

7. Generalization 44 was found to be useful in five of the studies, failed to meet the criterion of a minimum of twenty incidents in one study, and had such a low percent (21) of utility but a high number of incidents in social studies textbooks that the composite indicated that it was not useful.

Recommendations

1. Certain generalizations should be combined so as to be useful and produce clarity. Example: Generalizations 1, 6 (oa only), 8 and 10 could be stated, "When the vowel combinations oa, ee, and ay appear in a word, the long sound of the first vowel is heard, and the second vowel is usually silent."

2. Since the generalizations reported in the first three conclusions were found useful in a broad spectrum of the curriculum, the generalizations should be considered for reading instruction for children and in the preparation of prospective teachers of reading.

3. Numerous generalizations should not be included if the percentage of utility of seventy-five is appropriate (those generalizations identified in conclusion 4).

4. The generalizations that do not apply in even 50 percent of the words should not be included in the instructional program.

5. As stated by authors of some of the studies, there needs to be an empirical method for determining the minimum percentage of utility to determine usefulness. Perhaps it might be 65 percent when of a high frequency of occurrence.

6. A computer program could be designed to generate a set of generalizations using the words in the dictionary rather than by constructing a generalization and then testing the utility value.

Based upon the data from these seven studies and the composite, twenty-five generalizations are useful. The writers suggest that, where possible, these generalizations be consolidated and condensed to simplify the instructional task.

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